SNAKE CREEK WETLANDS

NARRATIVE REPORT

JANUARY-DECEMBER, 1966

PERSONNEL(Permanent)

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PERSONNEL(Temporary)

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CONTENTS

I. GENERAL

A. Description of the Area.

The Snake Creek Wetlands District comprises the counties of McLean, Sheridan, Ward, and McHenry. This area lies in the west-central portion of the state and is roughly 100 miles wide and 110 miles long. On the next page is a map of the state with the district boundary outlined in red.

B. Status of the Acquisition Program.

1. Fee title program.

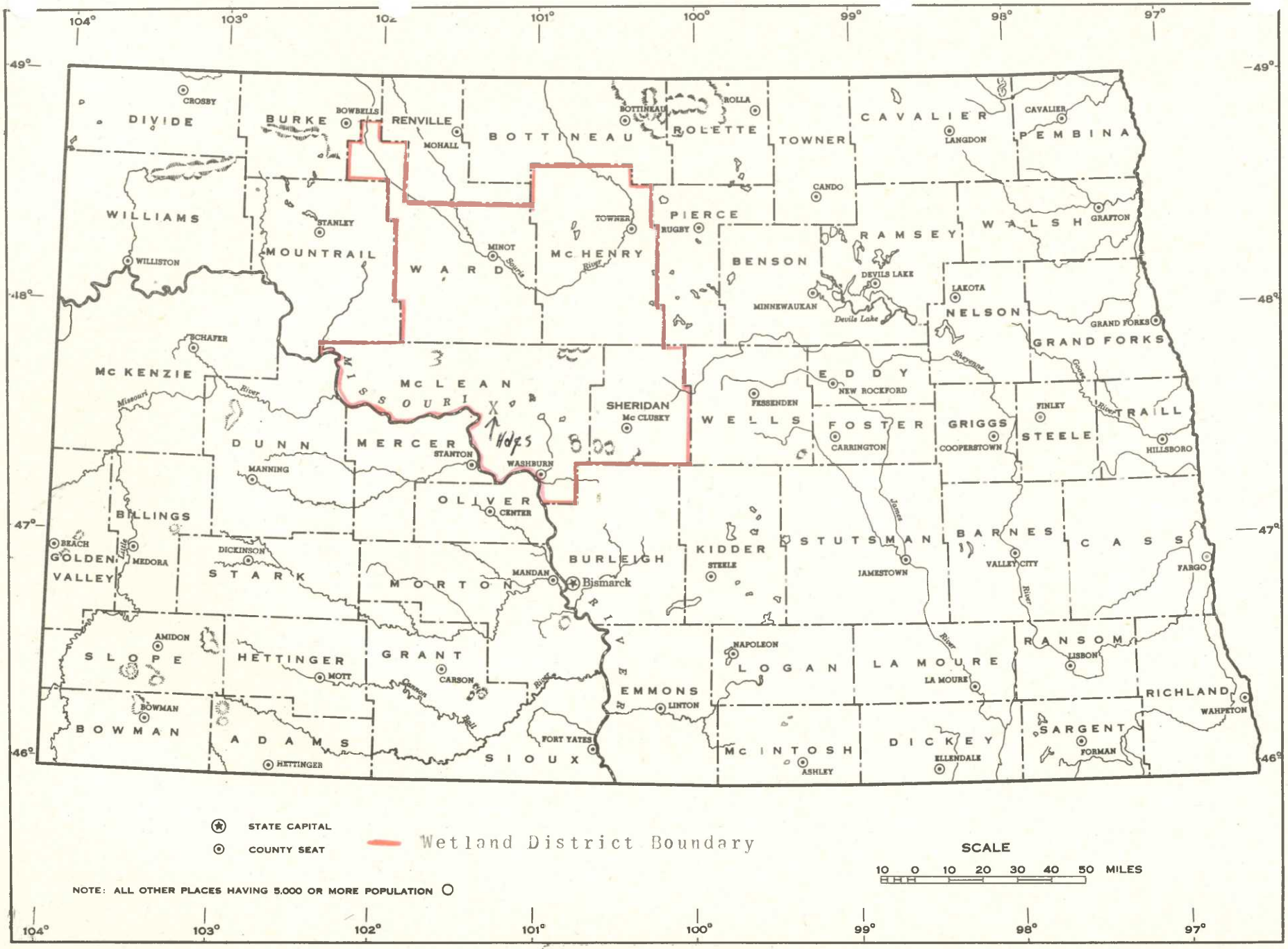
Fee acquistion has been continuing at a slow but steady pace. The average number of acres acquired each year for the past 5 years was 1,661 acres. In 1966, 2,351 acres were acquired so it was better than an average year.

Acquisition has been going well in Sheridan and Ward Counties, but poor in McLean and McHenry Counties. The bright spot is Ward County. There are many areas delineated for purchase in this county, and the past year we have been getting approval for purchase on some tracts. The Danielson tract, an excellent waterfowl area, was finally acquired this year. This tract was originally optioned in 1962. Several options on this tract by the Bureau had expired due to lack of approval by the county commissioners or the governor. A total of 872 acres was purchased this year in Ward County compared to 270 acres in 1965.

In McLean and McHenry Counties there are few willing sellers. In Sheridan County we have already "skimmed the cream" and willing sellers are becoming difficult to find.

2. Easement Program.

The easement program has been progressing at a rather uniform pace. In 1965, 63,676 acres were taken under easement and in 1966 the figure was 66,341 acres or approximately the same.



NORTH DAKOTA

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FEE TITLE AND EASEMENT ACQUISITION STATUS

	FEE TITLE *		EASEMENT **		
County	No. Mgt. Units	Acres	No. Easements	Wetland Acres	Total Acres
McHenry	2	440	101	8,751	36,016
McLean	6	1,260	77	7,407	40,983
Sheridan	18	4,852	116	15,406	60,904
Ward	10	1,752	203	21,636	103,060
Totals	36	8,304	497	53,200	240,963

* Fee Title - closed cases as of 12/31/66 (does not include optioned or lease optioned).

** Easements - closed cases and optioned areas as of 1/20/67.

C. Weather Conditions.

The big weather news of the year was the March storm. This storm dumped large amounts of snow in the district southeast of a line from Riverdale to Anamoose. North and West of this line little snow fell.

In general the summer was drier than normal. Some farmers in the Ryder - Berthold area didn't cut all their grain as it didn't fill out. Ward and McHenry Counties were opened for emergency haying of soilbank land as the dry conditions caused a hay shortage.

One unusual rain that filled many potholes where it fell was a 4 - 6 inch rain in the vicinity of Underwood to Butte. This rain came on June 24. While the rain did fill many wetlands in the area where it fell, it was very destructive to crops and nests and silted in many of the wetlands.

In general the period from September to the end of the year was drier than normal. See weather data on following page.

D. Habitat Conditions.

1. Water

In general wetland conditions were very good in the area covered by the March snowstorm; that is the area southeast of a line from Riverdale to Anamoose. Northwest of this area wetland conditions were poor. In general it can be said that wetland conditions were excellent in the southeast corner of the district and that they graded to very poor in the northwest corner.

WEATHER DATA

Precipitation	Max	McClusky	Towner	Average
January	.28	.21	.31	.27
February	.11	.21	.14	.15
March	.17	3.14	.09	1.13
April	1.12	.92	1.40	1.15
May	1.71	.96	1.69	1.45
June	4.64	4.38	2.96	3.99
July	3.03	2.06	1.95	2.35
August	2.31	2.33	2.60	2.41
September	.24	.85	.47	.52
October	.58	.44	1.02	.68
November	.22	.24	.59	.35
December	.41	.33	.26	.33
Total for year	14.82	16.07	13.48	14.79
Long term average	16.88	17.36	16.35	16.88

Temperature	Max.	Min.	Max.	Min.	Max.	Min.
January	22	-34	27	-34	21	-39
February	40	-25	40	-27	44	-32
March	73	-9	74	-13	74	-6
April	65	11	68	15	67	15
May	89	20	91	20	91	19
June	92	36	96	36	94	37
July	95	54	98	45	97	51
August	92	41	94	40	95	41
September	89	31	96	29	95	30
October	79	16	82	14	80	13
November	46	-10	49	-10	44	-10
December	42	-23	41	-22	40	-25
Extremes	95	-34	98	-34	97	-39

The Bureau owned 31 WPAs as of July 31, 1966. Only 1 of these was dry on this date. However, several WPAs in the Northwest portion of the district dried up later due to a dry fall period.

2. Food and Cover.

Cover conditions on the WPAs were in excellent condition for nesting. Even on the grazed WPAs cover was good.

In the process of seeding agricultural land to grass, a total of 8 acres of small grain was left on various WPAs as the government's share of the crop. This 8 acres helped provide additional food for upland game.

In general food and cover conditions on the WPAs were excellent for waterfowl. However, upland game birds experienced a real lack of desirable food and cover in the area covered by the March snowstorm.

II. WILDLIFE

A. Migratory Birds.

1. Waterfowl

On March 14 the first ducks of the spring migration were noted and these were mallards. Pintails, scaup, and redheads were observed 2 days later. The last to arrive were ruddy ducks on May 1. In general it appeared to be a "normal" spring migration.

Breeding pair counts were taken on the following WPAs: Oliver, Grayson, Reiser, Laib, Stute, Weishaar, Field, Knutson, Kohoutek, Nelson, Oster, Lasher, Thorson, Galusha, Peterson, Tkach, Hanson, Blum. An attempt was made to tabulate all incicated pairs (pairs plus lone males) within the boundary of the WPA.

One of the obvious findings was the lack of mallards during the breeding pair counts. On the 8 WPAs that were later checked for broods, there were 31 indicated pairs of mallards out of a total of 316 indicated pairs of all species. This amounts to only 9.8% of the breeding pairs as mallards. When one considers that mallards are normally the second most common breeding duck in the state (BWT are the most common) this 9.8% figure really seems poor.

Brood counts were taken on the following 8 WPAs: Hanson, Field, Galusha, Weishaar, Cartwright, Tkach, Oster, and Thorson. An effort was make to ascertain the total number of broods on these WPAs by all means available. This included observing the open water areas with glasses from an observation point, to jumping in and beating out the overgrown areas with 2 men and a dog. A total of 87 broods was tabulated on these 8 WPAs.

Two items seemed rather apparent when the beat-outs were completed. Mallards were definitely lacking. Of the 87 broods observed none were mallards. On the other hand Blue-winged teal broods were numerous and the brood size was large. Of the 13 Blue-winged teal broods observed where the entire brood was seen, the average was 8.5 young per brood.

On the 8 WPAs where intensive brood counts were taken there were 2,377 acres of Bureau owned land. At the end of August, 1966, the Bureau owned 6,979 acres in WPAs. To arrive at a figure for duck production for the district in 1966 the following formula was used:

$$\frac{\text{Acreage of 8 WPAs where broods counts were taken.}}{\text{Total acreage owned by Bureau on 8/31/66.}} = \frac{\text{Observed number of broods on 8 WPAs.}}{\text{Total number of broods produced in district.}}$$

OR

$$\frac{2{,}377 \text{ acres}}{6{,}979 \text{ acres}} = \frac{87 \text{ broods}}{X \text{ broods}}$$

X = 255 broods produced in district.

255 broods x 5.5 young per average brood = 1,402 estimated number of young raised to flight stage.

The fall migration was less than spectacular. Duck numbers were good in Sheridan County in the southeast corner of the district as many of the larger wetlands held water. However, things were progressively drier to the northwest and Ward County had relatively few ducks during migration. The mallard flight through much of the district was disappointing.

During the week of October 23 - 29 most of the lesser puddle ducks moved out and an influx of mallards occurred. On November 1 all of the wetlands except a very few of the large lakes froze over. Sheridan County was aerially checked on November 3 and the only open water was 1 hole in Sheyenne Lake. This hole contained about 800 mallards and represented the last of the fall migration.

The first Canada geese in the spring were observed on March 16. The only WPA known to have Canada geese on it was the Helm WPA in Sheridan County.

White-fronted geese seemed to be present in normal numbers. White-fronts are known to have used the Danielson, Tkach, Allen, and Papke WPAs.

Fewer whistling swans were present in 1966 than in 1965. During the migration periods swans were observed on the Allen, Papke, Hillstrom, Tkach, Diamond, Haas, and Danielson WPAs. Up to 300 swans were observed on the Diamond WPA.

2. Water and Marsh Birds.

1966 was a banner year for coot in the district. Day old coot were still being observed the first week of August. On the Weishaar WPA 8 broods of ducks were produced while about 75 young coot were recorded.

The year also seemed to be good for sora rail production. Several nests with eggs were found and young sora rails seemed more numerous than other years.

American bitterns were more numerous in the fall of 1966 than any year since 1962. This was probably due to the large number of frogs present in 1966. One bittern nest with eggs was found on the Cartwright WPA.

An occasional great blue heron was observed during the migration periods.

Black-crowned night herons were common throughout the summer. These stately sentinels took their posts almost nightly on the Haas and Weishaar WPAs.

Sandhill cranes appeared in normal numbers. The first ones observed in the spring were on April 9. By the last week in August some fall migrants were starting to arrive. The peak fall population in the vicinity of Turtle Lake, North Dakota was about 7,000 to 7,500. This peak occurred the middle of October.

3. Shore birds, gulls, and terns.

The usual shorebirds were present including avocets, marbled godwits, killdeer, upland plovers, willets, and numerous sandpipers. A large influx of marbled godwits occurred on March 22.

Ring-billed gulls are very numerous in the district along with a few herring gulls. Franklin gulls are also common, especially during late summer. One gull nesting colony is located in Lake Williams which is about 2 miles east of the town of Turtle Lake.

Common terns and black terns are common in the area. Many black tern nests are found in the marshes of the WPAs.

4. Doves.

Mourning doves are the only species present in the district and their numbers appear to be about the same as recent years. Most of the doves are closely associated with tree plantings and single row shelter belts. There was no dove season in the state in 1966.

B. Upland Game Birds.

Ring-necked pheasants are way down from previous years. The March storm in 1966 dealt a severe blow to the then existing meager pheasant population. One pheasant was observed on the Tkach WPA, 1 on the Haas WPA, and 3 on the Weishaar WPA during the entire year. I only know of 4 pheasant broods that were reared in 1966 in the entire 4 county area. There was no pheasant season in the fall of 1966.

Gray partridge numbers were likewise down in 1966. Partridge broods were practically non-existent in Ward County. The best area was Sheridan County and one would probably average seeing only a covey or 2 in a week of field work.

Sharptail grouse appeared to be down also. However, this decrease was probably only in the magnitude of 10 - 15%.

C. Other Birds.

Most species in this category appeared in normal numbers. One exception was the absence of marsh hawks. Several farmers also mentioned that they didn't see the usual number of marsh hawks following the farm machinery and watching for a mouse.

One unusual sighting was the observation of an albino lark bunting 6 miles east of McClusky on 8/8/66. This bird was in with a flock of about 15 normal birds.

D. Big Game Animals.

White-tailed deer are the only big game animals common in the district. Nearly all of the WPAs provide good deer habitat and are commonly used by these animals. I know that 4 deer were shot on the Tkach WPA during the hunting season. Most all of the WPAs are intensively hunted during the deer season.

While no actual surveys on deer numbers are conducted, my general impression is that the deer population is the lowest it has been for the past 3 years.

A few bands of antelope are scattered throughout the 4 county district. The largest is in the vicinity of Snake Creek Refuge, and a portion of this herd is harvested in a regular gun season. Small antelope bands (up to 25 animals) are also located in the following areas:

4 miles East of Turtle Lake.
Just North and East of Pickardville.
5 miles North of Butte.
12 miles North Northwest of Makoti.

E. Fur Animals, Predators, Rodents, and Other Mammals.

Muskrats and mink are rather scarce throughout the district. The only WPAs that I know of that definitely have muskrats are the Weishaar, Diamond, and Hillstrom WPAs.

During the winter of 1965 - 66 the price on red fox was $8 - $10. This caused quite an interest in fox hunting and trapping. Two airplane hunters in the vicinity of Goodrich shot 32 red fox one afternoon. By the spring of 1966 fox observations dropped considerably. However, by fall there were considerable numbers again and sightings were rather common.

A den of 5 young red fox was gassed on the Weishaar WPA. Traps were set and the female was caught the first night. Two days later the male fox was caught. It is interesting to note that when the den was first discovered we found duck wings at the site. Wings found represented 1 each of mallards, blue-winged teal, and shovelers --- all from hens! Setting hens?

May, 1966 R.F.

Red fox trapped on Weishaar WPA and parts of 3 female duck wings found at den site.

F. Rare, Endangered, and Status Undetermined Species.

1. Whooping Cranes.

These birds are known to pass over the district in their migration. However, none were seen nor were any reliable reports given during 1966.

2. Western Burrowing Owl.

This bird is listed as rare in the "Red Book". Usually in the course of a summer's work 3 or 4 nests of these birds are located. In 1966, 2 broods of Burrowing Owls were reared on the Weishaar WPA. One nest was just east of the gravel pit and another was on the south side of the Type IV wetland. Another known burrowing owl nest was located about 300 yards north of the John Linder residence in 29-148-80.

It is rather interesting to note that nearly all of the burrowing owl nests I have seen have always been in severely overgrazed pastures. Apparently these birds prefer these bare areas. The Weishaar WPA that had 2 nests in 1966 (this tract also had nests in 1964 and 1965) was severely overgrazed. Now that the Bureau has control and will allow the grasses to recover for waterfowl nesting purposes, it will be interesting and worthwhile to see what effect this will have on the burrowing owls.

3. Greater Sandhill Cranes.

Sandhill crane populations in the vicinity of Turtle Lake usually peak at 7,000 to 8,000 birds each fall. In 1964 I measured 150 tracks for mid-toe length. Supposedly birds with a mid-toe length of 100 mm or greater are greater sandhill cranes. Three of the 150 measurements were 100 mm or over and these 3 were 100, 101, and 103 mm. Apparently most, if not all, cranes in this area are lesser sandhill cranes.

G. Fish.

There are no fish present on any of the WPAs.

H. Reptiles and Amphibians.

Leopard frogs were very abundant this year. There were definetely more leopard frogs around the wetlands this year than any time since 1962.

I. Disease.

None noted this year.

III. WPA DEVELOPMENT AND MAINTENANCE

A. Physical Development.

The following fencing projects were completed during the year:

WPA	Miles Fence	Financing	Cost	
			Labor	Material
Peterson	2.0 (4 strand)	Contract	$400.00	$980.00
Hanson	.25 (3 strand)	Force Account	$ 95.00	$111.00

In addition to the above a 2.0 mile project was started on the Lasher WPA but was not completed due to freeze-up.

For the first time this year some pothole blasting was undertaken. Following is a table summarizing this project:

WPA	No. blasted holes	Cost	
		Material	Labor
Field	3	$15.11	$20.52
Allen	2	12.54	13.68
Peterson	2	9.30	13,68

Sept. 1, 1966 R.F.

There she blows! Allen WPA.

One of the major difficulties in accomplishing the blasting program is getting the charges dug in. Hand digging these holes is hard work and time consuming, thereby bringing up the labor cost. A 2-man post hole digger was purchased late in the fall to help alleviate this problem.

A total of 18 miles of boundary was posted on 11 WPAs.

B. Plantings including Soil and Moisture Activity.

1. Aquatics and marsh plants.

None.

2. Trees and Shrubs.

A total of 8,135 trees was planted on the Cartwright WPA. This planting was accomplished through the Sheridan County Soil Conservation District. Included in the planting was a wildlife planting of 20 tree rows 800 feet long. In addition, 4 miles of single row dropmore elms were planted to serve as snow traps. It is anticipated that the additional snow will help maintain a large type IV wetland on the WPA.

The following trees were planted on this WPA:

Species	Number
Dropmore Elm	4,050
Russian Olive	480
Chokecherry	800
Red Cedar	135
Plum	800
Buffaloberry	800
Caragana	800
Sandcherry	270

The following trees were secured from the McLean County Soil Conservation District and were planted near the residence on the Weishaar WPA:

Species	Number
Ponderosa Pine	25
Colorado Spruce	10
Siberian Elm	30
Cotoneaster	50

3. Grasslands.

Most of the cropland acquired with new WPAs is seeded to grass. This year 216 acres of cropland were seeded to grass. Following is a table giving details:

WPA	Acres Seeded	Seed Mix.	Rate of Application	Method		Date Seeded	Results
Schott	72	(1)	12 lbs./A.	grain	drill	5/26	(2)
Oster	60	(1)	"	"	"	5/21	(2)
Hanson	37	(1)	"	"	"	5/24	(2)
Galusha	47	(1)	"	"	"	6/4	(2)

(1) Grass mixture was 5# Slender Wheatgrass, 3# Tall Wheatgrass, 1# Crested Wheatgrass, 1# Russian Wildrye, 1# Green Needlegrass, 1# Alfalfa.
(2) Grass seedings looked good in the fall but they will be difficult to evaluate fully until 1967.

C. Cultivated Crops.

A total of 219 acres was planted to small grains. In addition, 63 acres were summerfallowed. Yields from the small grains were slightly above average.

All of the cropland, except 3 acres on the Kindschi WPA, was in conjunction with grass seeding. On these areas the permittee was allowed to keep 95% of the crop for his added cost of seeding the grass seed for the government; all grass seeding was done as a seperate operation so as to keep the seeds near the surface.

D. Collections and Receipts

1. Seed or other propagules.

About 2,200 pounds of grass seed were secured during the year. See NR-9.

2. Specimens.

None collected.

3. Building disposal.

The following buildings were sold by bid:

WPA	Property Number	Type of Building	Revenue Received
Oster	18	Barn	$351.00
Oster		3 Misc. Sheds	35.50
Oster	17	House	200.00
Weishaar	2	House	30.00
Weishaar	5	Granary	10.00
Weishaar		Misc. Metal Bin	10.00
Weishaar		Misc. Shed	22.00

E. Control of Vegetation.

Sixty acres of grass were seeded on the Reiser WPA in 1963. This resulted in a poor stand and weed competition was severe. On June 2, 1966 these sixty acres were sprayed with 2,4-D at the rate of 2 pounds a.e. per acre. In the fall of 1966 most of the weeds were dead and the grass didn't appear to be hurt. Full effects of the spraying won't be ascertainable until the 1967 growing season.

Other routine small weed control operations were undertaken. See NR-12.

F. Fires.

None known to have occurred on WPAs.

IV. RESOURCE MANAGEMENT

A. Grazing.

Grazing was permitted on 8 WPAs this year. The general grazing season is June 1 through September 15 on native grasses and May 15 through September 15 on areas that have a portion of cool season tame grasses. The September 15th cut-off date is due to the fact that the WPAs are open to hunting. Grouse and partridge seasons open then, and terminating the grazing permits on this date eliminates the hunter-farmer-open-gate problem. The grazing rate for 1966 was $1.72 per AUM.

Following is a table summarizing the grazing operation.

WPA	Acres Grazing Habitat	AUMs	Dates of Use	Revenue Collected
Grayson	160	26.25	6/1 - 9/15	$ 45.15
Reiser	160	42.00	6/1 - 8/31	72.24
Tkach	571	140.00	5/15 - 9/15	240.80
Thorson	205	33.95	6/1 - 9/15	58.39
Oster	280	44.50	6/1 - 9/15	76.54
Allen	700	153.93	5/15 - 9/15	264.76
Field	160	41.90	6/1 - 9/15	72.17
Peterson*	160	45.60	6/1 - 9/24	78.43
			Total Revenue	908.48

* This was an "off & on" permit. The Bureau fence was completed on 9/24/66 and grazing terminated.

B. Haying.

Haying activity during the year is simply stated - None.

C. Fur Harvest.

There is relatively little interest in trapping in this general area.

Two trappers took 10 muskrats and 1 mink from the Weishaar WPA. No other WPAs were systimatically trapped that I know of.

V. FIELD INVESTIGATION OR APPLIED RESEARCH

A. Wildlife Management Studies.

This year 20 artificial duck nesting structures were put out. These structures were built to the Iowa design of Robert Barrett; this is essentially a 2 foot square by 7 inch deep basket with a steel rod frame and lined with hardware cloth.

Native prairie hay was used as nesting material in 14 structures, and barley straw was used in 6. Fifteen structures were put in Type IV wetlands, 2 in Type III wetlands, and 3 in Type V wetlands. The baskets were checked twice during the nesting season. There was no known use of any of the structures by ducks.

Speculation as to the lack of use were (1) few mallards in this area, (2) the nesting structures are not deep enough.

In 1967 another duck nesting structure project is scheduled in conjunction with the NPWRC.

B. Biological Tinkering.

1. Cattle Exclosures on Tkach WPA.

Two cattle exclosures were built on the Tkach WPA in 1964. This entire WPA is a grazing unit. One exclosure is entirely in native prairie to see what effect the cattle have on the native grasses. The other one is half native prairie and half bromegrass (soilbank formerly). To date it appears that the moderate grazing is not affecting the native prairie, as the grasses within the exclosure are similar to the grazed area surrounding it. In the other exclosure there has been no change in the bromegrass area or the native sod area. i.e. the bromegrass is not invading the prairie grasses nor vice versa.

2. Summer Banding.

This summer as in past summers a few days were spent banding local broods in late July and early August by drive trapping. This activity permits the personnel to become thoroughly familiar with the identification of various species and also to learn the varied techniques of escape and other habits of the different birds. It also provides us with information concerning locally hatched birds and contibutes to the national banding program.

A total of 12 man days were spent banding the following birds:

Species	No. Locals	No. Adults
B-W Teal	100	90
G-W Teal	2	53
Gadwall	16	
Shoveler	19	
Pintail	1	
Widgeon	7	
Redhead	16	
Canvasback	6	
L. Scaup	1	
Ruddy	1	
Total	169	143

VI. EASEMENT ADMINISTRATION

All easements were aerially checked between 11/3 and 11/30, 1966. This involved examining 212,000 acres in the 4 counties. Areas in McLean, McHenry and Sheridan Counties were aerially checked in 8½ hours of flying time in a Cessna 172. Areas in Ward County, (90,000 acres), which are near the Minot AFB, were aerially checked with helicopter gratis of the air force. We have used helicopters the past 3 years in checking easements and they work very satisfactorily. I learned this fall that the pilots consider flying for us a "choice" mission as it is different from their usual runs. We also appreciate it as it saves us roughly $175 per year.

Nine easement violations were found in Ward and McHenry Counties and none in Sheridan and McLean Counties. Eight of the violations were due to burning and 1 was a burning-draining combination. All of the violations were ground checked and the owners contacted. Most were minor violations and involved burning wetlands in roadside ditches, wildfires, and neighbors burning adjacent areas and allowing the fire to spread on easement areas. In the draining violation (32x, Ward County) a tenant used a plow and the dead furrow served as an outlet ditch.

Nov. 30, 1966 R.F.

Plow dead furrow used to partially drain wetland in background. Easement 32x Ward County. SW¼ 16-151-82.

All violations were documented and certified letters were sent to the violators citing the violation and stating the letter would become a part of the official government file. The owner in the ditching violation was given until April 15, 1967 to plug the ditch.

To date there have been no serious easement violations. There has only been 1 repeat easement burning violation and this was by a tenant and constituted a 1.5 acre wetland.

VII. PUBLIC RELATIONS

A. Recreational Uses.

Public hunting is the major recreational use on the WPAs. More and more hunters are realizing the WPAs are providing good habitat and are hunting these areas.

Waterfowl hunting is the most popular form of recreation followed by deer hunting. There is little interest in upland game bird hunting in this area.

I would estimate that there are about 40 - 45 man-visits on the average to each WPA for hunting purposes. However, any one of these visits may be only for an hour or so.

Present plans call for improving the Weishaar WPA as a wildlife demonstration area. This tract contains 1 each of Type IV and Type V wetlands. Nesting structures and other improvements will be completed in the marsh areas. There also are about 75 acres of Class II upland. This will be divided into 5 rod agricultural strips. Tree plantings consisting of wildlife plantings, and single and double row windbreak plantings are also scheduled. Portions of the tract were summerfallowed in 1966 and trees will be planted next year. Interspersed with the trees and cropland will be grassland nesting areas of various sizes. We hope to demonstrate good farming practices that will also be condusive to wildlife management. A large recognition sign was erected in December in the northwest corner of the WPA.

December, 1966. R.F.

Recognition sign on Weishaar WPA.

B. Refuge Visitors.

Date	Visitor	Purpose
8/29	Ed. Smith	Field Inspection
9/21	Robert Burwell	" "
9/21	Abe Tunison	" "

C. Wetlands Participation.

Date	Activity
1/23 - 29	Attended RO Conference, Minneapolis.
Feb., 1966	6 hours Red Cross First Aid Course.
2/18 - 19	N.D. Wildlife Society Meeting at Jamestown.
2/23	Presented slide talk. Benedict Wildlife Club.
2/28 - 3/11	Attended IACP school at Ardin Hills, Minn.
3/31 - 4/1	Attended wetlands meeting at Jamestown.
4/14 - 15	Attended waterfowl censusing meeting at Jamestown.
6/9	Attended ACP meeting at McClusky.
7/29 - 30	Attended summer meeting of N.D. Chapter Wildlife Society at Lake Metigoshe.
9/13	Presented movie at meeting of Underwood Sportsmen's Club.
9/15 - 16	Attended meeting at Minot AAO with Region I personnel re establishing wetland program in Montana.
9/19 - 20	Attended Wildlife Services meeting at Lake Metigoshe.
9/23	Gave blasting demonstration for Sheridan County SCS.
10/29	Attended District IV meeting of N.D. Wildlife Federation at Turtle Lake.
11/7	Attended AAO-Refuge coordination meeting at Minot AAO.

D. Hunting.

Upland game bird hunting was the poorest this year of any time since 1962 when the wetlands office was established. There was no pheasant season and gray partridge were very scarce. Sharptail grouse were around in fair numbers, but wild. Upland game bird hunters in the district were practically non-existent.

While duck hunting was good in Sheridan County it was fair to poor in the remainder of the district. Duck hunters were rather scarce in the district and had only fair success.

Deer hunters were in normal numbers and had average success (about 65 - 70%). Many of the WPAs are intensively hunted for deer. Most deer hunters, and myself, feel the deer population is down 20 - 30% from 1965.

E. Violations.

No violations were observed this fall. Due to other activities and few hunters little time was spent on enforcement work.

F. Safety.

Since the wetlands operation is essentially a 1-man operation, reading safety bulletins etc. comprises the bulk of the safety program. Each job is handled as safely as possible as it comes up.

The temporary summer employee was briefed on safety when he started. In addition the hazards of any new job he started, such as fencing, were pointed out.

A well cover was built and installed on the pump for Q-3. Previously V - belts and pulleys were exposed and presented a safety hazard.

VIII. OTHER ITEMS

A. Items of Interest.

Since the wetlands district is essentially a one man operation this entire report was prepared by Ralph Fries.

Some clerical work, vehicle maintenance checks, and other miscellaneous services were provided by Snake Creek Refuge.

B. Photographs.

Photos are incorporated in the body of the report and others are following the signature page.

SIGNATURE PAGE

Submitted by:

Ralph F. Fries
(Signature)

Ralph F. Fries

Wetlands Manager
Title

Date: February 13, 1967

Approved, Regional Office:

Date: 2-23-67

Edward J Smith
(Signature)

Asst. D...
Regional Refuge Supervisor

9/1/66 RF

Giffey burying ammonium nitrate charges in whitetop slough on the Allen WPA

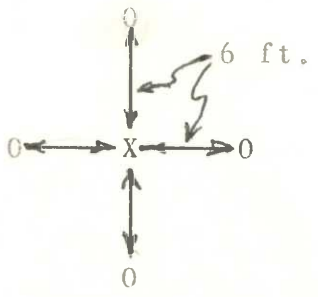
9/1/66 RF

Particles settling after the blast on the Allen WPA


DANGER-
EXPLOSIVES

9/1/66 RF

A hole 6 ft. deep and 18 ft. in diameter was created on the Allen WPA with the following charge:



X - 20 lbs. nitrate 36" deep
0 - 10 lbs. nitrate 24" deep

10/3/66 RF

While we create wetlands by blasting others destroy them. Drainage equipment owned by local farmer. New ditch is on private land in SW¼ 22-148-82.

11/21/66 RF

Messages like this help brighten the day.
While aerially checking easements in McHenry
County this greeting was observed on easement
48X, SE¼ 7-153-78

11/23/66 RF

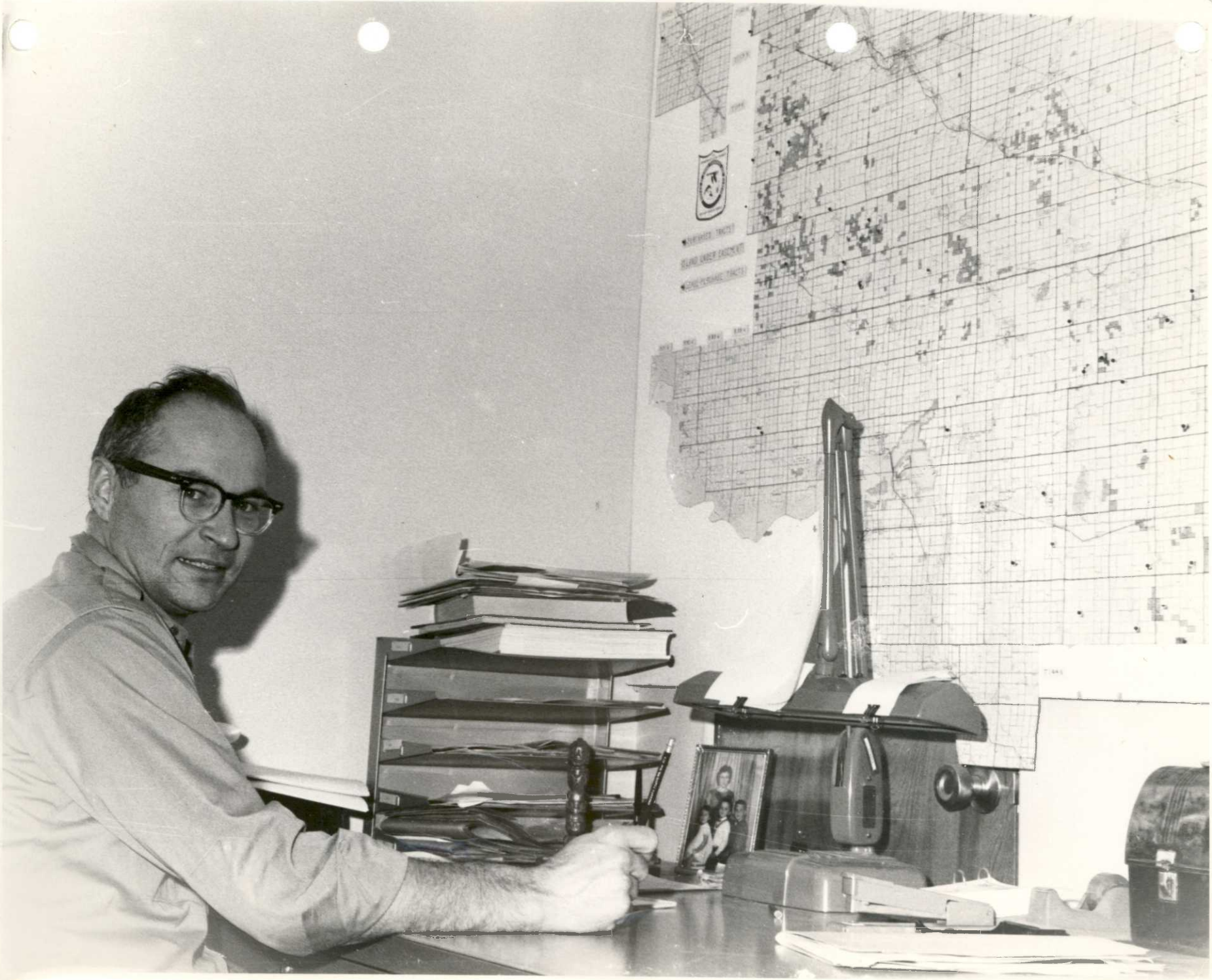
Wetland manager's residence on the Weishaar WPA.


HELLO
THERE

Wetland Manager Ralph Fries

working on the NR.

1/27/67 McGlauchlin



3-1755
[illegible] NR-5
60701

DISEASE

Refuge Snake Creek Wetlands Year 1966

Botulism

Period of outbreak _____

Period of heaviest losses _____

Losses:

	Actual Count	Estimated
(a) Waterfowl		
(b) Shorebirds		
(c) Other		

Number Hospitalized	No. Recovered	% Recovered
(a) Waterfowl		
(b) Shorebirds		
(c) Other		

Areas affected (location and approximate acreage) _____

Water conditions (average depth of water in sickness areas, reflooding of exposed flats, etc.

Condition of vegetation and invertebrate life _____

Remarks None observed.

Lead Poisoning or other Disease

Kind of disease _____

Species affected _____

Number Affected Species	Actual Count	Estimated

Number Recovered _____

Number lost _____

Source of infection _____

Water conditions _____

Food conditions _____

Remarks None observed

3-1758
m NR-8
(Rev. Jan. 1956)

Fish and Wildlife Service Branch of Wildlife Refuges

CULTIVATED CROPS - HAYING - GRAZING

Refuge Snake Creek Wetlands County McLean State North Dakota

Cultivated Crops Grown	Permittee's Share Harvested		Government's Share or Return				Total Acreage Planted	Green Manure, Cover and Waterfowl Browsing Crops Type and Kind	Total Acreage
			Harvested		Unharvested				
	Acres	Bu./Tons	Acres	Bu./ Tons	Acres	Bu. /Tons			
Wheat	30	660					30		30
Barley	38	1330			4	140	42		42
								Fallow Ag. Land.	

No. of Permittees: Agricultural Operations 1 Haying Operations _____ Grazing Operations _____

Hay - Improved (Specify Kind)	Tons Harvested	Acres	Cash Revenue	Grazing	Number Animals	AUM'S	Cash Revenue	ACREAGE
				1. Cattle				
				2. Other				
				1. Total Refuge Acreage Under Cultivation				72
Hay - Wild				2. Acreage Cultivated as Service Operation				0

DIRECTIONS FOR PREPARING FORM NR--8'
CULTIVATED CROPS - HAYING - GRAZING

Report Form NR-8 should be prepared on a calendar-year basis for all crops which were planted during the calendar year and for haying and grazing operations carried on during the same period.

Separate reports shall be furnished for Refuge lands in each county when a refuge is located in more than one county or State.

Cultivated Crops Grown - List all crops planted, grown and harvested on the refuge during the reporting period regardless of purpose. Crops in kind which have been planted by more than one permittee or this Service shall be combined for reporting purposes.

Permittee's Share - Only thenumber of acres utilized by the permittee for his own benefit should be shown under the Acres column, and only the number of bushels of farm crops harvested by the permittee for himself should be shown under the Bushels Harvested column. Report all crops harvested in bushels or fractions thereof except such crops as silage, watermelons, cotton, tobacco, and hay, which should be reported in tons or fractions thereof.

Government's Share or Return - Harvested Show the acreage and number of bushels harvested for the Government of crops produced by permittees or refuge personnel. Unharvested Show the exact acreage and the estimated number of bushels of grain available for wildlife. If grazing is made available to waterfowl through the planting of grain, cover, green manure, grazing or hay crops, estimate the tonnage of green food produced or utilized and report under Bushels Unharvesed column.

Total Acreage Planted - Report all acreage planted, including crop failures.

Green Manure, Cover and Waterfowl Grazing Crops Specify the acreage kind and purpose of the crop. These crops and the acreage may be duplicated under cultivated crops if planted during the year, or a duplication may occur under hay if the crop results from a perennial planting.

Hay - Improved - List separately the kinds of improved hay grown. Annual plantings should also be reported under Cultivated Crops, and perennial hay should be listed in the same manner at time of planting

Total Refuge Acreage Under Cultivation Report total land area devoted to agricultural purposes during the year.

3-1758
Form NR-8
(Rev. Jan. 1956)

Fish and Wildlife Service Branch of Wildlife Refuges

CULTIVATED CROPS - HAYING - GRAZING

Refuge Snake Creek Wetlands County Sheridan State North Dakota

Cultivated Crops Grown	Permittee's Share Harvested		Government's Share or Return Harvested		Government's Share or Return Unharvested		Total Acreage Planted	Green Manure, Cover and Waterfowl Browsing Crops Type and Kind	Total Acreage
	Acres	Bu./Tons	Acres	Bu./ Tons	Acres	Bu. /Tons			
Oats	57	2,280			3	120	60		60
Wheat	2	44			1	22	3		3
								Fallow Ag. Land.	

No. of Permittees: Agricultural Operations 2 Haying Operations _____ Grazing Operations 6

Hay - Improved (Specify Kind)	Tons Harvested	Acres	Cash Revenue	Grazing	Number Animals	AUM'S	Cash Revenue	ACREAGE
				1. Cattle		440.63	757.88	2,276
				2. Other				
				1. Total Refuge Acreage Under Cultivation				63
Hay - Wild				2. Acreage Cultivated as Service Operation				0

DIRECTIONS FOR PREPARING FORM NR--8'
CULTIVATED CROPS - HAYING - GRAZING

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Total Refuge Acreage Under Cultivation Report total land area devoted to agricultural purposes during the year.

3-..8
Form NR-8
(Rev. Jan. 1956)

Fish and Wildlife Service Branch of Wildlife Refuges

CULTIVATED CROPS - HAYING - GRAZING

Refuge Snake Creek Wetlands County Ward State North Dakota

Cultivated Crops Grown	Permittee's Share Harvested		Government's Share or Return				Total Acreage Planted	Green Manure, Cover and Waterfowl Browsing Crops Type and Kind	Total Acreage
			Harvested		Unharvested				
	Acres	Bu./Tons	Acres	Bu./Tons	Acres	Bu./Tons			
Wheat	28	616					28		28
Barley	53	1855			3	105	56		56
								Fallow Ag. Land	63

No. of Permittees: Agricultural Operations 2 Haying Operations _____ Grazing Operations 2

Hay - Improved (Specify Kind)	Tons Harvested	Acres	Cash Revenue	GRAZING	Number Animals	AUM'S	Cash Revenue	ACREAGE
				1. Cattle		87.5	150.60	320
				2. Other				
				1. Total Refuge Acreage Under Cultivation				147
Hay - Wild				2. Acreage Cultivated as Service Operation				0

DIRECTIONS FOR PREPARING FORM NR-8
CULTIVATED CROPS - HAYING - GRAZING

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Total Acreage Planted - Report all acreage planted, including crop failures.

Green Manure, Cover and Waterfowl Grazing Crops - Specify the acreage, kind and purpose of the crop. These crops and the acreage may be duplicated under cultivated crops if planted during the year, or a duplication may occur under hay if the crop results from a perennial planting.

Hay - Improved - List separately the kinds of improved hay grown. Annual plantings should also be reported under Cultivated Crops, and perennial hay should be listed in the same manner at time of planting.

Total Refuge Acreage Under Cultivation - Report total land area devoted to agricultural purposes during the year.

INT.-DUP. SEC., WASH., D.C. 91767

3-1759
Form NR-9
(April 1946)

COLLECTIONS AND RECEIPTS OF PLANTING STOCK
(Seeds, rootstocks, trees, shrubs)

Refuge Snake Creek Wetlands Year 1966

Species	Collections				Receipts		Total Amounts on Hand	Amount Surplus
	Amount	Date or Period of Collection	Method	Unit Cost	Amount	Source		
Dropmore Elm					4050	Sheridan Co.		
Russian Olive					480	S.C.D.		
Choke Cherry					800	"		
Red Cedar					135	"		
Plum					800	"		
Buffaloberry					800	"		
Caragana					800	"		
Sandcherry					270	"		
Ponderosa Pine					25	McLean Co.		
Colorado Spruce					10	S.C.D.		
Siberian Elm					30	"		
Cotoneaster					50	"		
Slender Wheatgrass					900 lbs.	Bober Seed Co.		
Russian Wildrye					300 lbs.	" "		
Green Needlegrass					300 lbs.	" "		
Slender Wheatgrass					700 lbs.	Crosby WPA	700 lbs.	

Interior Duplicating Section,
Washington 25, D. C. 17263

3-1979 (NR-12)
(9/6

Bureau of Sport Fisheries and Wildlife

ANNUAL REPORT OF PERSTICIDE APPLICATION

Refuge: Snake Creek Wetlands

Proposal Number:

Reporting Year: 1966

INSTRUCTIONS: Wildlife Refuges Manual, secs. 3252d, 3394b and 3395.

Date(s) of Application	List of Target Pest(s)	Location of Area Treated	Total Acres Treated	Chemical(s) Used	Total Amount of Chemical Applied	Application Rate	Carrier and Rate	Method of Application
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1. 6/2/66	Broad leaf weeds	Reiser WPA	60	2,4-D ester	120 lbs. a.e.	2 lbs. /acre	water 25 gal. / A.	Ground Sprayer
2. 6/15/66	Field Mustard	Galusha WPA	47	2,4-D ester	35 lbs. a.e.	.75 lbs. / A.	water 25 gal. / A.	Ground sprayer
3. 7/13/66	Pharagmities	Haas WPA	0.2	Tordon 22K	0.4 lbs. a.e.	2 lbs. /acre	water 100 gal. / A.	Hand sprayer

10. Summary of results (continue on reverse side, if necessary)

Items 1 & 2 provided good control of broad-leaf weeds.

Item 3 was only about 50% effective. Should have been sprayed earlier in the year.

35500

HABITAT CONDITION - ANNUAL SUMMARY

County	Unit	Acres	Dates Checked	Water Conditions	Upland Habitat Conditions	Waterfowl Observed	Land Use	Management Plan
Sheridan	Cartwright	160	7/28/66	Good	V. Good	23d(17)	Non-use	PP
Sheridan	Tkach	571	7/27/66	Fair	V. Good	200d(264)	Grazed	PP
Sheridan	Thorson	205	8/2/66	Fair	Good	28d	Grazed	PP
Sheridan	Oster	480	7/22/66	Good	Good	100d(48)	Grazed	PP
Ward	Hanson	240	7/20/66	Fair	Good	22d(66)	Non-use	PP
Ward	Galusha	160	7/20/66	Poor	Good	75d(48)	Cropland	PP
Ward	Field	160	7/21/66	Poor	V. Good	6d(24)	Grazed	PP
McLean	Weishaar	320	8/5/66	Full	V. Good	35d(47)	Non-use	PP
McLean	Laib	105	5/12/66	Good	V. Good	83d	Non-use	PP
McLean	Stute	104	5/12/66	Full	Good	131	Non-use	PP
Sheridan	Reiser	160	5/10/66	Good	V. Good	70	Grazed	PP
Sheridan	Lasher	160	5/18/66	Good	Good	48	Grazed	NC
Sheridan	Helm	160	5/17/66	Good	Fair	22	Cropland	NC
Sheridan	Grayson	160	5/10/66	Good	V. Good	12	Grazed	PP
Ward	Blum	160	5/26/66	Fair	V. Good	29	Non-use	PP
Ward	Peterson	160	5/20/66	Fair	Poor	23	Grazed	NC
Ward	Nelson	149	5/16/66	Fair	V. Good	9	Non-use	PP
Ward	Knutson	194	5/13/66	Fair	V. Good	57	Non-use	PP